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ABSTRACT

The Methodologies of Bilingual Instruction in Literacy Education (MOBILE) project served 359 native Spanish- and Haitian Creole/French-speaking students at 2 high schools in its first year of funding. The project provided supplementary instruction in English as a Second Language (ESL), native language arts (NLA), and bilingual mathematics, science, and social studies. Non-instructional components included academic and personal counseling, tutoring, career and college advisement, communication with families of participating students, staff development activities, curriculum development, basic skills courses for parents, and cultural trips. The project met its ESL, staff development, and attendance objectives. The proposed content area objective was met at one school in one semester and at the other school in both semesters. The curriculum development objective was partially met. Lack of data made it impossible to evaluate the following: Spanish NLA, computer science, grade retention, staff awareness of pupil needs and problems, referral to special programs, and parent involvement. Delays and lack of appropriate space were problems. Recommendations for program improvement include exchange of ideas between resource specialists and paraprofessionals, allocation of appropriate spaces at both sites, arrangement for computer science courses at both sites, and hiring of a full-time bilingual guidance counselor. (MSE)

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EVALUATION SECTION
John Schoener, Chief Administrator
June 1989

# EVALUATION SECTION REPORT

# METHODOLOGIES OF BILINGUAL INSTRUCTION IN LITERACY EDUCATION

PROJECT MOBILE
1987-1988

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5/22/89

# METHODOLOGIES OF BILINGUAL INSTRUCTION IN LITERACY EDUCATION

## PROJECT MOBILE*

## 1987-88

## SUMMARY

- Project MOBILE was fully implemented. During the 1987-88 school year, students received instruction in English as a Second Language (E.S.L.), Native Language Arts (N.L.A.), and bilingual content areas.

- The project met its E.S.L., staff development, and attendance objectives. The proposed content area objective was met at Franklin K. Lane High School in the spring and at Samuel J. Tilden High School in both semesters. Project MOBILE met the N.L.A. (Haitian Creole) objective in the spring, but not in the fall. The program partially met the curriculum development objective. Lack of data made it impossible to evaluate the following objectives: N.L.A. in Spanish, computer science, grade retention, staff awareness of pupil needs and problems, referral to special programs, and parental involvement.

The Methodologies of Bilingual Instruction in Literacy Education (Project MOBILE) served 359 students in its first year of a Title VII three-year funding cycle. Spanish-speaking students at Franklin K. Lane High School and Haitian Creole/French-speaking students at Samuel J. Tilden High School participated in the program.

Pretesting was done with the Language Assessment Battery (LAB). The project provided supplementary instruction in English as a Second Language (E.S.L.); Native Language Arts (N.L.A.); and bilingual mathematics, science, and social studies. Project MOBILE provided academic and personal counseling, tutoring, career and college advisement, and communicated with the families of participating students. There were also staff development activities, basic skills courses for parents at Tilden and cultural trips for students at Lane.

The Office of Research, Evaluation, and Assessment (OREA) assessed the program objectives in English language development

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*This summary is based on the final evaluation of the "Methodologies of Bilingual Instruction in Literacy Education (Project MOBILE) 1987-88" prepared the OREA Bilingual Education Evaluation Unit.

by comparing pre- and posttest scores on the LAB. Students showed statistically significant gains, meeting the program objective. At Lane High School in the spring and at Tilden High School both semesters, over 75 percent of participating students earned grades of at least 65 in science and social studies. Students at both schools achieved the criterion in mathematics in the spring. No data were available to assess the Spanish N.L.A. objective. Over 75 percent of the students taking Haitian Creole N.L.A. received passing grades on their final exams in the spring but not in the fall; therefore this objective was partially met. Data were unavailable to assess the computer science and several noninstructional objectives. In the future, OREA will meet with the project director to discuss the suitability of objectives based upon the availability of instruments. The project met the attendance objective with a ten to 15 percent higher rate than that of mainstream students. Project MOBILE met its staff development objective. It partially met the curriculum development objective since some, but not all, of the proposed instructional guides were finalized. An innovative aspect of the program was its basic skills class for the parents of Tilden students.

The program suffered from serious delays in the implementation of its resource/computer centers at both schools because of difficulties in acquiring and installing equipment, the late employment of the resource specialist and paraprofessional at Lane, and the lack of appropriate space at Tilden.

The conclusions, based on the findings of this evaluation, lead to the following recommendations:

- Arrange for meetings to take place between the resource specialists and paraprofessionals so that they might share their experiences and ideas.
- Allocate appropriate space for the resource/computer center at Tilden High School.
- Separate the resource room from the music room at Lane High School.
- Arrange for participating students at both sites to enroll in computer science courses.
- If funds permit, hire a full-time bilingual guidance counselor to relieve nonguidance personnel from guidance functions.

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# I. INTRODUCTION

This report documents the Office of Research, Evaluation, and Assessment's (OREA's) evaluation of the Elementary and Secondary Education Act (E.S.E.A.) Title VII program, Methodologies of Bilingual Instruction in Literacy Education (Project MOBILE). The project completed its first year of a three-year funding cycle. Designed to promote bilingual excellence in limited English proficient (LEP) students, the project's primary objective was for LEP students to acquire optimal language proficiency in English while developing reading and writing skills in Haitian Creole/French or Spanish. The target population consisted of 359 LEP students at Franklin K. Lane and Samuel J. Tilden high schools.

## HISTORY OF THE PROGRAM

The principal at Tilden said that he and his staff had designed a bilingual program there five years earlier with input from the bilingual and E.S.L. personnel, and, during this early period, Tilden had received Title VII funds to provide supplementary services to its LEP population. According to the project director, although Lane had first received Title VII funding in the late 1960s, no further funding had been provided until the 1987-88 academic year.

## SETTING

Franklin K. Lane High School is located on the Brooklyn/Queens border in a deteriorated, impoverished area with

a reputation for violent crime. In 1987-88, Lane's enrollment of 4,535 included 1,931 Hispanics (43 percent) and 821 blacks (18 percent). The remaining students were white or Asian. Thirteen percent of Lane's students qualified for the free-lunch program.

Samuel J. Tilden High School is situated in a residential neighborhood of single-family homes in Brooklyn. For the year covered by this report, Tilden's enrollment totalled 2,684, of whom 2,555 (95 percent) were black and 108 (four percent) were Hispanic. Twenty-three percent of the students were eligible for the free-lunch program.

The MOBILE staff at Lane set up a resource center in part of a small crowded room that had been designated for this purpose by the school administration but was also used for music instruction and the storage of music equipment. The center's section had two computer terminals and a printer, a small library of curricular and resource materials, and a table displaying college materials.

At Tilden, the school administration had not yet allocated space for the resource center at the time of the evaluation visits in the spring. Despite this, the resource specialist was available full-time in his office to assist program students. The anteroom of his office also functioned as a study hall for students during their free periods. The Title VII paraprofessional worked with program students in this area when he was not assisting in the classroom.

PARTICIPATING STUDENTS

Most program students came from Haiti (64 percent) and the Dominican Republic (17 percent). A total of 58 students left the program during the year. Most program students were in the ninth and tenth grades; 64 percent were overage for their grade placement. (See Table 1.)

Most of Tilden High School's participating students were recent arrivals to the United States. The parents of some had sent them to stay with relatives in New York in order that their education not be interrupted by the political turmoil in Haiti. Others had been preceded by their parents, who wanted to become financially secure before bringing their children to this country. In the latter case, the loss of parental control and/or financial support sometimes led the youngsters to drop out of school so that they were several years behind grade level.

The project director said that most of the participating students at Lane were either looking for jobs or had already found part-time employment and that Lane students tended to live in single-parent or sibling households more often than did Tilden students.

Participating students were generally well prepared in the content areas but very limited in English. Although a number of Haitian students had some knowledge of spoken French, most had serious problems reading and writing the language.

TABLE 1

Number of Program Students by Age and Grade*

| Age | Grade 9 | Grade 10 | Grade 11 | Grade 12 | Total |
|---|---|---|---|---|---|
| 14 | 16 | 1 | | | 17 |
| 15 | 28 | 22 | | | 50 |
| 16 | 33 | 35 | 5 | | 73 |
| 17 | 28 | 43 | 13 | 1 | 85 |
| 18 | 9 | 37 | 12 | 1 | 59 |
| 19 | 2 | 21 | 11 | 2 | 36 |
| 20 | | 4 | 10 | 4 | 18 |
| 21 | | | 2 | 1 | 3 |
| TOTAL | 116 | 163 | 53 | 9 | 341** |

All Overage Students

| | | | | | |
|---|---|---|---|---|---|
| Number | 72 | 105 | 35 | 7 | 219 |
| Percent | 62 | 64 | 66 | 77 | 64 |

Overage Students at Franklin K. Lane High School

| | | | | | |
|---|---|---|---|---|---|
| Number | 41 | 18 | 7 | 1 | 67 |
| Percent | 66 | 32 | 17 | 33 | 56 |

Overage Students at Sameuel J. Tilden High School

| | | | | | |
|---|---|---|---|---|---|
| Number | 27 | 87 | 28 | 6 | 148 |
| Percent | 54 | 66 | 77 | 100 | 68 |

Note: Numbers in bold area reflect expected age range for grade.

*Age on June 30, 1988.
**Data were missing for 18 students.

- Most participating students were in the ninth and tenth grades.
- The majority (64 percent) of program students were overage for their grade placement.

STAFF

Project MOBILE's Title VII staff included a resource specialist and a paraprofessional at each site. Both resource specialists and the paraprofessional at Lane worked full-time at the resource centers. The paraprofessional at Tilden, however, devoted several periods a day to assisting in bilingual classes.

Project MOBILE's resource specialists both had master's degrees and many years of experience in bilingual education. In addition to regular resource room duties, the resource specialists interviewed, tested, and evaluated students for placement in classes. They maintained ongoing contact with the teachers as a way of keeping abreast of the students' needs and progress. They kept files on each student's work and report card grades and saw students who were having difficulties in their classes.

The Title VII paraprofessional at Tilden had some experience in bilingual education. Although available to all program students, he concentrated his efforts on assisting the ninth- and tenth-graders, whom he and program students' teachers had decided needed the most help. He tutored students individually in the program office.

MOBILE's on-site staff members worked with the project director, who was based at the project's central office. She had nine years of experience in bilingual education. A project staff member complained that there was a gap in communication between

the sites and the project director, and a lack of direction and support from her office because of her many commitments.

DELIVERY OF SERVICES

Project MOBILE sought to provide the target population with individualized and interdisciplinary bilingual instruction according to each student's needs, abilities, and career goals. Title VII funds offered supplementary instruction in English as a second language (E.S.L.); native language arts (N.L.A.); and in native language mathematics, science, and social studies.

Each site had a resource/computer center operated by a resource specialist and a paraprofessional. The resource center at Lane was open to program students eight periods a day. However, students had no free or lunch periods, and they had to lose classroom time in order to visit the center. The resource specialist, in collaboration with classroom teachers, set up a schedule for those program students most in need of remedial services. Students were also allowed to use the center on a walk-in basis, if they had an urgent problem.

During the latter part of the spring semester, the resource specialist and the paraprofessional at Lane taught students basic computer literacy and keyboarding on a one-to-one basis. Activities in the resource room were conducted in Spanish.

The Title VII staff provided program students with academic and personal counseling, tutoring, career and college advisement. They contacted families by telephone and mail. Project MOBILE staff at Lane held cultural trips for program students.

Project MOBILE offered Tilden parents basic skills classes, including basic literacy, E.S.L., and high school equivalency (G.E.D.) preparation. Classes were held at the nearby Vanderveer Catholic Center.

REPORT FORMAT

This report is organized as follows: Chapter II describes the evaluation methodology; Chapter III presents an analysis of the qualitative findings of the evaluation; Chapter IV offers an analysis of the quantitative findings; and Chapter V gives conclusions and recommendations based on the results of the evaluation.

## II. EVALUATION METHODOLOGY

### EVALUATION QUESTIONS

The evaluation assessed two major areas, program implementation and outcome. Evaluation questions included the following:

Process/Implementation

- Did the program select students for participation according to specific criteria?
- Which of the planned parent activities were most successful in increasing parental involvement in the project?

Outcome

- What was the average Normal Curve Equivalent (N.C.E.) gain on the LAB?
- What percentage of program students passed their courses in mathematics, science, and social studies?
- How did the attendance rate of program students compare with that of mainstream students?

### EVALUATION PROCEDURES

Sample

An OREA field consultant observed classes in E.S.L., N.L.A., mathematics, and science. She interviewed program and school staff, including the program director, the schools' principals, the resource specialists, and the teachers of program participants. OREA provided student data forms for the project's student population of 359.

Instruments

OREA developed an observation schedule to document the classroom environment, instructional activities and materials. OREA also created and used interview schedules for the school and project personnel whom the field consultant interviewed. Project personnel used OREA-developed data retrieval forms to report student attendance and achievement data.

Data Collection

OREA field consultant interviewed school and program staff and observed classes during the spring semester. OREA staff members supplied the project director with a questionnaire and student data forms in both the fall and the spring. The project returned the student data forms at the end of each semester and the questionnaire at the end of the spring semester.

Data Analysis

OREA evaluated E.S.L. achievement by calculating Language Assessment Battery (LAB) pretest/posttest differences for the 189 students on whom the project provided such data.* Analysts examined records to ascertain the passing rates in the content

*The Language Assessment Battery (LAB) was developed by the Board of Education of the City of New York to measure the English-language proficiency of nonnative speakers of English in order to determine whether their level of English proficiency is sufficient to enable them to participate effectively in classes taught in English. Students scoring below the twenty-first percentile on the LAB are entitled to bilingual and E.S.L. services.

area courses. OREA data analysts used the z-test* when comparing project student attendance rates with mainstream attendance rates.

Limitations

Since all program-eligible students were involved either in the current project or another program, it was impossible to select a valid comparison group. Additionally, the project neglected to provide data necessary to assess the accomplishment of many of the proposed objectives.

*Bruning, J.L. and Kintz, B.C., Computational Handbook of Statistics (Glenview, IL: Scott, Foresman and Company, 1968).

## III. EVALUATION FINDINGS: IMPLEMENTATION

MOBILE provided 359 LEP students with E.S.L. instruction; N.L.A.; bilingual mathematics, science, and social studies; and computer-assisted instruction. The project's noninstructional component included tutoring, staff and curriculum development, support services, and activities for parental involvement.

### INSTRUCTIONAL ACTIVITIES

#### English as a Second Language

Teacher recommendations, report cards from previous schools, and interviews with the resource specialists determined students' initial placement in E.S.L. courses. Students could take E.S.L. reading and writing courses on the beginning, intermediate, and advanced levels at both sites. Tilden also provided a O-level E.S.L. class for illiterate students in order to prepare them for beginning E.S.L.

An OREA field consultant observed an intermediate level E.S.L. class at Tilden. The aim of the class was "To read and comprehend the story 'The Wrong House.'" The 16 students who were present spent half the class period completing each of nine sentences the teacher had written on the blackboard. The teacher then called on individual students to write their answers on the board and to read the completed sentences aloud. She repeated phrases and asked the class related questions. In the next part of the lesson, the teacher called on volunteers to read passages from a story in their textbooks, and corrected

their pronunciation as they read. After the first page, the teacher asked a student to summarize the content and asked questions related to the story.

Native Language Arts

At both Tilden and Lane, the assistant principal for foreign languages was in charge of N.L.A. instruction. Tilden provided program students with four levels of French instruction and two levels of French culture in which students learned commercial French. Because of a lack of demand from the students and no parental support, the school offered only one Haitian-Creole N.L.A. class. Lane provided program students with three levels of Spanish and a class which combined two levels.

An evaluation consultant observed a beginning-level N.L.A. class at Tilden. Nineteen students were present. The aim of the lesson was for students to learn the present imperative and to review the use of articles. The teacher began the class by asking the students to complete exercises in their textbooks. After giving the students time to complete their work, she asked for volunteers to read their answers aloud. She then invited students to go to the board to conjugate the verbs "aller," "manger," and "finir." She conducted the class in both French and Haitian Creole.

Content Area Subjects

Both Tilden and Lane appeared to have an adequate number of bilingual teachers to meet student needs in all subject areas, including mathematics and science, the two subjects where the citywide shortage of bilingual teachers is most severe.

Tilden offered the following content area classes to program students: global history I and II, government, and introduction to government; biology I and II and physical science; fundamentals of mathematics II and sequential mathematics I and II.

At Lane, program students could take classes in American studies and global history I, II, and IV and American history II; and general science and biology. Students could take global studies, fundamentals of mathematics, and biology, taught with an E.S.L. approach. Classes in bilingual keyboarding and bilingual stenography were also available to program students.

A field consultant observed a Haitian-Creole bilingual biology class at Tilden and a Spanish bilingual sequential mathematics II class at Lane.

Thirteen students were present in the biology class. The aim of the lesson, "What is the job of the digestive system?" was written on the board in English. The students began by answering the question "What is the difference between physical and chemical digestion?" A large colored chart of the human digestive system hung from the blackboard. The teacher asked a student to write the answer to the original question on the

board, and then reviewed the answer. While all oral communication in the class was in Haitian Creole, all board work was in English. The teacher then made a chart on the blackboard of some examples of chemical digestion, listing four nutrients, the places where their digestion occurs, the secretions involved, and the end product of digestion for each. Many of the students participated in the lesson by asking and answering questions.

Twenty-one students attended the sequential mathematics class. The teacher had the students copy the algebra notes and problems that she had written on the board in Spanish. She then reviewed the notes on how to do simple mathematical operations in algebraic form and asked for volunteers to come to the board to write the answers. In the next part of the lesson, the teacher distributed a mimeographed sheet of word problems and asked the students to put the problems in algebraic form, and to read aloud their answers. Many of the students participated.

## NONINSTRUCTIONAL ACTIVITIES

### Staff Development

During the year under review, the staff at both sites enrolled in and completed college-level courses: the project director and the resource specialist at Tilden each took nine credits of computer courses at Fordham University; the paraprofessional at Tilden participated in a teacher education course at York College; and the resource specialist at Lane enrolled in a three-credit linguistics course at Columbia

University. The paraprofessional at Lane did not pursue any college courses, but did take part in noncredit teacher-training sessions that were held at the central office of the Board of Education. At Tilden, two bilingual teachers of program students were enrolled in computer education courses and one attended an education course.

Title VII staff members also participated in other staff development activities. The assistant principals at both sites held monthly meetings for all foreign language department personnel. Project staff at Lane also attended workshops on technical assistance for evaluation and budget management that were given at the Board of Education's Office of Educational Evaluation.

In addition, the resource specialist at Lane attended a computer/E.S.L workshop, observed several other Title VII-funded bilingual high school programs, and visited publishing houses to preview and/or acquire materials for the program.

Curriculum Development

During the academic year and the summer of 1988, program staff developed or adapted the following curricula in Haitian Creole at Tilden: Introduction to Chemistry, Introduction to Computer Literacy, Principles of Mathematics (Regents Competency Test [R.C.T.] exercises) and social studies. At Lane, personnel created a Fundamentals of Mathematics I curriculum in Spanish. In addition, during the year under review, the resource

specialist was developing a basic skills series for students' parents.

Support Services

In addition to the support services that the Title VII staff offered program students, bilingual guidance counselors at both sites provided students with academic and personal counseling and college advisement. According to the project director, the guidance counselor at Tilden was keenly aware of the cultural needs of the Haitian students and worked in close contact with the resource specialist. However, because of the lack of a bilingual grade advisor, the resource specialist at Tilden spent most of his time advising and counseling students.

The project director and project staff at both sites reported that the migration patterns of both the Haitian and Hispanic ethnic groups often lead to domestic difficulties. Parents often emigrate to New York, leaving behind spouses and children until they are financially able to send for them. Alternatively, parents send their children to New York to live with relatives. When parents remarry and start new families in New York, the arrival of teenage children in the household is not always welcome, as living quarters are often crowded, economic resources scarce, and parental discipline often difficult to reestablish. According to the project director, a large majority of program students live with their fathers' new families. The pressures and frustrations experienced by immigrant families trying to adapt to the harsh conditions of

life in New York, combined with traditions of culturally condoned corporal punishment, often lead to cases of child abuse.

Project staff at Tilden told a member of the evaluation team that the transition from Haiti's authoritarian classroom culture, which stresses rote learning and unquestioning obedience to the teacher, to the relatively relaxed environment of the American classroom was often profoundly disorienting, and sometimes led to inappropriate behaviors. In addition, they noted that the use of Haitian Creole rather than French as the classroom language also undermined some youngsters' respect for authority.

Parental Involvement

There was a low level of parent participation in MOBILE, particularly at Tilden, even though program staff sent letters to the parents to inform them about both the MOBILE program and other school functions. The resource specialist at Tilden suggested cultural as well as practical reasons for the low involvement rate of Haitian parents in their children's school activities. In Haiti, school staff usually consults with a parent only when a student is having a serious problem. In addition, while parents may be interested in becoming more involved in school activities at Tilden, they are often unable or unwilling to take the time off from their jobs in order to do so. Low wages, heavy work schedules, job insecurity, pressing financial need, and fear of contact with the school because of

their illegal immigration status are additional factors that mitigate against greater parental involvement. At Lane, however, some parents attended advisory council meetings and parent/teacher conferences.

Although MOBILE was designed to offer basic skills classes to parents of program students, this component was not implemented during the year under review at Lane. Parents of Tilden program students attended basic skills classes at the neighborhood Vandeveer Catholic Center.

## IV. EVALUATION FINDINGS: OUTCOMES

### INSTRUCTIONAL OUTCOMES

#### English as a Second Language

- As a result of participation in the program, program students will make statistically significant gains in English language proficiency.

To assess students' achievement in English, OREA's analyst computed a correlated t-test on LAB normal curve equivalent (N.C.E.) scores.* The t-test determines whether the difference between means is significantly greater than would be expected from change variation alone.

Project MOBILE provided complete LAB pre- and posttest scores for 187 students in grades 9, 10, and 11. Gains for students in grades nine and ten and for the group as a whole were statistically significant ($p < .05$). (See Table 2.) The mean N.C.E. gain was 5.5 (s.d.=9.6). Overall effect size was .57, indicating a moderate amount of educational meaningfulness.** Project MOBILE met the proposed E.S.L. objective.

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*Raw scores were converted to N.C.E. scores, which are normalized standard scores. They have the advantage of forming an equal interval scale so that scores and gains can be averaged. For the norming population, N.C.E.s have a mean of 50, a standard deviation of approximately 20, and a range from one to 99. Scores can be compared to the norming population.

**The effect size, developed by Jacob Cohen, is a ratio of the mean gain to the standard deviation of the gain. This ratio provides an index of improvement in standard deviation units irrespective of the size of the sample. Effect size (E.S.) is interpreted to indicate educational meaningfulness, and an E.S. of .80 is thought to be highly meaningful, while one of .20 is considered to be only slightly so.

TABLE 2

Pretest/Posttest N.C.E. Differences
on the Language Assessment Battery, by Grade

| Grade | Number of Students | Pretest Mean | Pretest S.D. | Posttest Mean | Posttest S.D. | Difference Mean | Difference S.D. | t Value | Effect Size |
|---|---|---|---|---|---|---|---|---|---|
| 9 | 55 | 6.5 | 7.8 | 9.4 | 10.5 | 2.9 | 8.1 | 2.62* | 0.35 |
| 10 | 98 | 9.1 | 8.1 | 17.0 | 12.4 | 7.9 | 5.7 | 9.25* | 0.93 |
| 11 | 34 | 17.2 | 9.9 | 20.6 | 16.0 | 3.4 | 13.0 | 1.53 | 0.26 |
| TOTAL | 187 | 8.8 | 9.1 | 15.4 | 13.2 | 6.6 | 9.6 | 7.96* | 0.57 |

* $p < .05$

- Ninth- and tenth-graders showed significant pretest/posttest N.C.E. differences.
- The overall gains were of moderate educational meaningfulness.

Native Language Arts

- Seventy-five percent of the Spanish-dominant participants will demonstrate a significant increase in Spanish-language achievement as indicated by significant improvement at the .05 level of statistical significance when results of La Prueba de Lectura are analyzed using a correlated t-test.

Since Project MOBILE did not provide the necessary data, OREA was unable to evaluate this objective.

- Seventy-five percent of the Haitian Creole-dominant participants will demonstrate a significant increase in native-language achievement as indicated by receiving a grade of at least 65 on a final exam.

In the spring semester, data were available for 151 students. Of these, 82.8 percent received a grade of at least 65 on the final exam. In the fall semester data were available for 197 students; 45.2 percent achieved a minimum of 65 on the final exam. Therefore, the program achieved this objective for the spring semester but not for the fall.

Content Area Subjects

- Seventy-five percent of program students will achieve a passing grade of 65 or better in mathematics, science, and social studies.

There were no Fall data for Lane. Of the students at Tilden for whom data were provided in the fall, more than 75 percent earned grades of at least 65 in science and social studies. (See Table 3.) Since the overall passing rate was 78.7 percent, the project met its content area objective in the fall at Tilden.

In the spring at both schools, over 75 percent of those students for whom there were data earned grades of at least 65 in

content area studies. (See Tables 3 and 4). The project achieved its content area objective in the spring at both sites.

Computer Science

- At least 75 percent of the students enrolled in computer science courses will score at or above the passing criterion of 65 on the final exam.

The program made no provision at either site for LEP students to attend computer science classes. Therefore, OREA could not evaluate the objective as proposed.

NONINSTRUCTIONAL OUTCOMES

Attendance

- As a result of participation in the program, students' attendance will be 10 to 15 percent higher than the attendance of mainstream students.

Since the school's attendance rate included the attendance of program students, statistical significance between program and school attendance was determined through the application of a z-test for the significance of a proportion. This procedure tests whether the difference between one proportion (the program's attendance) and a standard proportion (the school's attendance) is greater than what can be expected by chance variation.

The attendance rate of program students at Tilden High School was 95.38 percent and that of mainstream students was 84.92 percent. At Franklin K. Lane, the attendance rate for program students was 90.17 percent and 76.67 for mainstream students. The z-test results ($z = 4.17$ and 2.32 respectively) indicate that the differences in attendance rates are

TABLE 3

Passing Rates in Content Area Courses
at Samuel J. Tilden High School

| | Fall | | Spring | |
|---|---|---|---|---|
| | Number of Students Passing* | Percent Passing | Number of Students Passing* | Percent Passing |
| Mathematics | 118 | 73.3 | 130 | 80.7 |
| Science | 121 | 80.1 | 136 | 82.4 |
| Social Studies | 159 | 82.0 | 141 | 82.9 |
| Overall Passing Rate | 398 | 78.7 | 407 | 82.1 |

*Passing grade, 65.

- Overall, Project MOBILE met the objective that 75 percent of the students would achieve a passing grade of 65.

TABLE 4

Passing Rates in Content Area Courses
at Franklin K. Lane High School

| | Fall | | Spring | |
|---|---|---|---|---|
| | Number of Students Passing | Percent Passing | Number of Students Passing* | Percent Passing |
| Mathematics | -- | -- | 119 | 100.0 |
| Science | -- | -- | 122 | 100.0 |
| Social Studies | -- | -- | 121 | 100.0 |
| Overall Passing Rate | -- | -- | 362 | 100.0 |

*Passing grade, 65.

- In the spring, Project MOBILE met the objective that 75 percent of the students would achieve a passing grade of 65.
- No data were available for the fall.

statistically significant ($p < .05$). Thus, the program met its attendance objective.

Referral to Special Programs

- The rate of program students referred to special remedial programs will be 10 to 15 percent less than that of mainstream students.

Since the project did not provide any data for either site, OREA could not assess the achievement of the above objective.

Grade Retention and Referral to Special Education

- Rates of student grade retention or referral to or placement in special education will be 10 to 15 percent lower for program students than for mainstream students.

Since the project did not provide any data for either site, OREA could not assess the achievement of the above objective.

Placement in Programs for the Gifted and Talented and in Post-Secondary Education Institutions

- As a result of participation in the program, students' placement in programs for the gifted and talented, and enrollment in post-secondary education institutions, will be 10 to 15 percent greater than that of mainstream students.

Since the project did not provide any data for either site, OREA could not assess the achievement of the above objective. According to the project director, ten senior project students at Tilden had applied for admission to college.

Staff Awareness of Pupil Needs and Problems

- Eighty-five percent of the program staff will demonstrate an increase in awareness of pupil needs and problems as indicated by a 5-point scale of problems and needs inventory.

The objective could not be assessed as proposed as neither site provided data on awareness of pupil needs and problems.

Staff Development

- Ninety percent of the program staff will demonstrate professional growth by completing college courses and by attending in-service training sessions.

All four Title VII staff members either completed college courses or attended in-service training sessions in the current year. Project MOBILE met its proposed staff development objective.

Curriculum Development

- As a result of the program, eight instructional guides will be developed in the areas of mathematics, science, social studies, native language arts, and computer science in the native language.

The program developed Haitian-Creole curricula in chemistry, computer literacy, mathematics, and social studies. In addition, staff members at Lane created a mathematics curriculum in Spanish. The project failed to develop instructional guides in N.L.A.. It also failed to develop all the proposed eight guides. The project did not meet the curriculum development objective as proposed but was certainly on its way to achieving it.

Parental Involvement

- The attendance of parents of program students at school functions will be 10 to 15 percent higher than that of parents of mainstream students.

OREA could not assess the objective as proposed since the project provided no data on the attendance of parents of mainstream students. According to Lane's resource specialist, approximately 33 percent of program students' parents attended parent/teacher conferences, and ten parents attended monthly advisory council meetings. The resource specialist at Tilden stated that only five percent of program students' parents attended monthly advisory council meetings.

## V. CONCLUSIONS AND RECOMMENDATIONS

Due to delays in hiring staff at Lane and in allocating space at Tilden, and in the delivery and installation of computer equipment at both sites, neither resource/computer center operated as proposed. While a resource center finally operated at Franklin K. Lane High School during the spring semester, there was none at Samuel J. Tilden High School.

Contact between the sites and between the director and the schools was limited.

Project MOBILE met its achievement objectives in E.S.L. and N.L.A. in Haitian Creole in the spring. The objective in content area subjects was met in both semesters at Tilden and in the spring semester at Lane. Attendance and staff development objectives were met. The project only partially achieved the objective for curriculum development since it did not develop curriculum guides in E.S.L. or the required number of guides.

Because of a lack of data, OREA could not determine whether Project MOBILE had met its objectives in Haitian Creole N.L.A., content area subjects in the fall at Franklin K. Lane High School, referral to special programs, grade retention and referral to special education, placement in programs for the gifted and talented and in postsecondary institutions, staff awareness of pupil needs and problems, and parental involvement. The project could not meet the objective for student achievement in computer science since no project students were enrolled in

computer science courses. There were no data to support attainment of most objectives.

The conclusions, based on the findings of this evaluation, lead to the following recommendations:

- Arrange for meetings to take place between the resource specialists and paraprofessionals so that they might share their experiences and ideas.
- Allocate appropriate space for the resource/computer center at Tilden High School.
- Separate the resource room from the music room at Lane High School.
- Arrange for participating students at both sites to enroll in computer science courses.
- If funds permit, hire a full time bilingual guidance counselor to relieve nonguidance personnel from guidance functions.